

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 38-40 (canceled).

Claim 41 (original) A tool having a cutting edge with a hone thereon that varies from a tip end to a root end, the hone being formed in accordance with a process comprising the steps of:

placing the tool in a fixture;

rotating an abrasive brush about a rotational axis, the abrasive brush including a plurality of abrasive bristles which define a volume;

adjusting the position of the cutting edge relative to the axis of rotation of the abrasive brush such that at least a portion of the cutting edge to be honed is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a portion of the cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the cutting edge having a first shape;

adjusting the position of the cutting edge relative to the axis of rotation of the abrasive brush such that another portion of the cutting edge is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed; and

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that said other portion of the cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the cutting edge having a second shape different from the first shape.

Claim 42 (original) A tool having a cutting edge with a hone thereon that varies from a tip end to a root end, the hone being formed in accordance with a process comprising the steps of:

positioning the cutting edge relative to an abrasive brush rotating about an axis of rotation, the abrasive brush having a plurality of abrasive bristles;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a portion of the cutting edge passes through at least a portion of the abrasive bristles to form a hone on the cutting edge having a first shape; and

repositioning the cutting edge while translating the tool through the abrasive bristles such that a second portion of the cutting edge is substantially parallel to the axis of rotation of the abrasive brush, the repositioning causing a hone having a shape different from the first shape to be formed on the second portion of the cutting edge being honed.

Claim 43 (canceled).

Claim 44 (currently amended) A tool as in claim 66 43, wherein the ~~at least one~~ dimension varies continuously from the ~~first~~ tip end to the ~~second~~ root end.

Claim 45-47 (canceled).

Claim 48 (currently amended) A tool as in claim 66 43, wherein the ~~at least one~~ dimension at the ~~first~~ tip end is different from the ~~corresponding~~ dimension at the ~~second~~ end.

Claim 49 (currently amended) A tool as in claim 66 43, wherein the ~~at least one~~ dimension at the ~~first~~ tip end is the same as the corresponding dimension at the root ~~second~~ end, and the ~~at least one~~ dimension along the an intermediate portion is different from the ~~corresponding~~ dimension at the ~~first and second~~ tip and root ends.

Claim 50 (canceled).

Claim 51 (currently amended) A tool as in claim 42 50, wherein the ~~first~~ shape of the hone at the tip end and the ~~second~~ shape the shape of the hone at the root end are substantially the same.

Claim 52 (currently amended) A tool as in claim 42 ~~50~~, wherein the ~~first~~ shape of the hone at the tip end and the ~~second~~ shape of the hone at the root end are substantially the same and the ~~intermediate~~ shape of the hone in an intermediate portion of the cutting edge is variable between the ~~first~~ tip end and the ~~second~~ root end.

Claim 53 (currently amended) A tool as in claim 52, wherein the ~~intermediate~~ shape of the hone in the intermediate portion of the cutting edge varies continuously from the ~~first~~ tip end to the ~~second~~ root end.

Claim 54-59 (canceled).

Claim 60 (currently amended) A high precision cutting tool according to claim 64 ~~59~~ wherein the magnitude of the hones on adjacent edges are different.

Claim 61 (currently amended) A high precision cutting tool according to claim 64 ~~59~~ wherein the magnitude of the hone on an edge varies along at least a portion of the edge.

Claim 62 (currently amended) A high precision cutting tool according to claim 64 ~~59~~ wherein the shape of the hone is non-symmetrical on at least one edge.

Claim 63 (canceled).

Claim 64 (previously presented) A high precision cutting tool comprising
a plurality of cutting edges formed on a portion of the tool, each cutting edge having a controlled hone formed on it; the magnitude of the hone on one edge being different than the magnitude of the hone on at least one other edge, the hone being formed in accordance with a process comprising the steps of:

placing the tool in a fixture;

rotating an abrasive brush about a rotational axis, the abrasive brush including a plurality of abrasive bristles which define a volume;

adjusting the position of the cutting tool relative to the axis of rotation of the abrasive brush such that at least a portion of a first cutting edge to be honed is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a portion of the first cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the first cutting edge having a first shape;

adjusting the position of the cutting tool relative to the axis of rotation of the abrasive brush such that a second cutting edge is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed; and

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that the second cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the second cutting edge having a second shape different from the first shape.

Claim 65 (previously presented) A tool having a cutting edge with a hone thereon that varies from a tip end to a root end, the hone being formed in accordance with a process comprising the steps of:

placing the tool in a fixture;

rotating an abrasive brush about a rotational axis, the abrasive brush including a plurality of abrasive bristles which define a volume;

adjusting the position of the cutting edge relative to the axis of rotation of the abrasive brush such that at least a portion of the cutting edge to be honed is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a first portion of the cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the first portion of the cutting edge, the hone on the first portion defining a dimension;

adjusting the position of the cutting edge relative to the axis of rotation of the abrasive brush such that a second portion of the cutting edge is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed; and

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that the second portion of the cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the second portion of the cutting edge, the hone on the second portion defining a dimension corresponding to the dimension defined by the first portion that is different from the first portion dimension.

Claim 66 (previously presented) A tool having a cutting edge with a hone thereon that varies from a tip end to a root end, the hone being formed in accordance with a process comprising the steps of:

positioning the cutting edge relative to an abrasive brush rotating about an axis of rotation, the abrasive brush having a plurality of abrasive bristles;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a first portion of the cutting edge passes through at least a portion of the abrasive bristles to form a hone on the cutting edge defining a dimension; and

repositioning the cutting edge while translating the tool through the abrasive bristles such that a second portion of the cutting edge is substantially parallel to the axis of rotation of the abrasive brush, the repositioning causing a hone to be formed on the second portion of the cutting edge, the hone on the second portion defining a dimension corresponding to the dimension defined by the first portion that is different from the first portion dimension.

Claim 67 (previously presented) A high precision cutting tool comprising a plurality of cutting edges formed on a portion of the tool, each cutting edge having a controlled hone formed on it defining a dimension; the dimension defined by the hone on one edge being different than a corresponding dimension defined by at least one other edge, the hones being formed in accordance with a process comprising the steps of:

placing the tool in a fixture;

rotating an abrasive brush about a rotational axis, the abrasive brush including a plurality of abrasive bristles which define a volume;

adjusting the position of the cutting tool relative to the axis of rotation of the abrasive brush such that at least a portion of a first cutting edge to be honed is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed;

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that a portion of the first cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the first cutting edge;

adjusting the position of the cutting tool relative to the axis of rotation of the abrasive brush such that a second cutting edge is substantially parallel to the axis of rotation of the abrasive brush and in a desired position to be honed; and

translating the tool along a path substantially parallel to the axis of rotation of the abrasive brush such that the second cutting edge passes through at least a portion of the volume of the abrasive brush to form a hone on the second cutting edge.